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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,337	11/26/2001	Joseph David Chiodo	15-263C1	1398

7590 04/08/2004  
WATTS, HOFFMANN, FISHER & HEINKE CO., L.P.A.  
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1100 Superior Avenue  
Cleveland, OH 44114

EXAMINER

FERGUSON, MICHAEL P

ART UNIT	PAPER NUMBER
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3679

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/994,337	CHIODO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michael P. Ferguson	3679	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 65-92 is/are pending in the application.
- 4a) Of the above claim(s) 77-92 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 65-76 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>01/29/02</u> . | 6) <input type="checkbox"/> Other: ____.  |

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## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I Species 1, claims 65-76, in Paper dated March 11, 2004 is acknowledged. The traversal is on the ground(s) that searching all three species would not place a serious burden on the examiner. This is not found persuasive because the search of multiple species would pose a serious burden on the examiner, as it requires the search of separate subclasses due to the structural differences between species.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 77-92 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper dated March 11, 2004.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 65-72 are rejected under 35 U.S.C. 102(b) as being anticipated by Auer (US 3,416,823).

As to claim 65, Auer discloses an article comprising:

first and second portions fastened together by a releasable fastener device;

wherein the releasable fastener device comprises shape memory material and is in the form of a female element **4** threadedly engaged with a complementary male element **3** through a first threaded engagement region of the shape memory material provided on one of the female element and the male element and a second threaded engagement region provided on the other one of the female element and the male element;

the threaded engagement region of the female element radially grips the threaded engagement region of the male element; and

the releasable fastener device is operative upon shape transition to change the cross-sectional shape of the first threaded engagement region to radially move the first threaded engagement region clear of the second threaded engagement region so as to release the threaded engagement between the male and female elements and leave the male element free to withdraw from the female element without having to be unscrewed therefrom (column 1 lines 51-60, Figure 1).

As to claim 66, Auer discloses an article wherein the first threaded engagement region of the shape memory material is provided on the female element **4** (Figure 1).

As to claim 67, Auer discloses an article wherein the shape memory material is a shape memory polymer (column 1 lines 61-65).

As to claim 68, Auer discloses an article wherein the shape memory material is operative to change the cross-sectional shape of the first threaded engagement region provided on the female element **4** from generally oval (round) to generally round, in

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order to increase the minimum radial dimension of the cross-section and thereby release the male element **3** (column 1 lines 51-60).

As to claim 69, Auer discloses an article wherein the female element **4** comprises a generally annular member, and wherein the shape memory material is operative upon shape transition to cause the female element to lengthen in a generally axial direction and concurrently to enlarge the inner diameter of the female member, thereby to release the threaded engagement with the male element **3**, and to generate a separation force in the axial direction (column 2 lines 1-11).

As to claim 70, Auer discloses an article wherein the shape memory material is a shape memory polymer (column 1 lines 61-65).

As to claim 71, Auer discloses an article wherein the female element **4** comprises a generally annular member, and wherein the shape memory material is operative upon shape transition to cause the female element to lengthen in a generally axial direction and concurrently to enlarge the inner diameter of the female member, thereby to release the threaded engagement with the male element **3**, and to generate a separation force in the axial direction (column 2 lines 1-11).

As to claim 72, Auer discloses an article wherein the shape memory material is a shape memory polymer (column 1 lines 61-65).

5. Claims 65 and 73-76 are rejected under 35 U.S.C. 102(b) as being anticipated by Gross (US 5,536,126).

As to claim 65, Gross discloses an article comprising:

first and second portions fastened together by a releasable fastener device;

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wherein the releasable fastener device comprises shape memory material and is in the form of a female element **40** threadedly engaged with a complementary male element **44,46** through a first threaded engagement region of the shape memory material provided on one of the female element and the male element and a second threaded engagement region provided on the other one of the female element and the male element;

the threaded engagement region of the female element radially grips the threaded engagement region of the male element; and

the releasable fastener device is operative upon shape transition to change the cross-sectional shape of the first threaded engagement region to radially move the first threaded engagement region clear of the second threaded engagement region so as to release the threaded engagement between the male and female elements and leave the male element free to withdraw from the female element without having to be unscrewed therefrom (column 3 lines 20-31, Figures 4 and 5).

As to claim 73, Gross discloses an article wherein the first threaded engagement region of the shape memory material is provided on a shank of the male element **44** (column 3 lines 20-31, Figures 4 and 5).

As to claim 74, Gross discloses an article wherein the shape memory material is a shape memory polymer (column 3 lines 39-43).

As to claim 75, Gross discloses an article wherein the shape memory material is operative to change the cross-sectional shape of the shank **44** from generally oval (round) to generally round, in order to decrease the maximum radial dimension of the

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cross-section, and thereby release the threaded engagement with the female element 40 (Figures 4 and 5).

As to claim 76, Gross discloses an article wherein the shape memory material is a shape memory polymer (column 3 lines 39-43).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure. The following patents show the state of the art with respect to releasable fasteners:

Malofsky et al. (US 6,543,976) is cited for pertaining to a fastener having a male element having a threaded region of shape memory material.

Lortz et al. (US 5,722,709) is cited for pertaining to a fastener having a female element having a threaded region of shape memory material.

Popov (RU 2011045) is cited for pertaining to a fastener having male and female elements which change in cross-sectional shape from oval to round.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Ferguson whose telephone number is (703)308-8591. The examiner can normally be reached on M-F (7:30-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H. Browne can be reached on (703)308-1159. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MPF

  
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